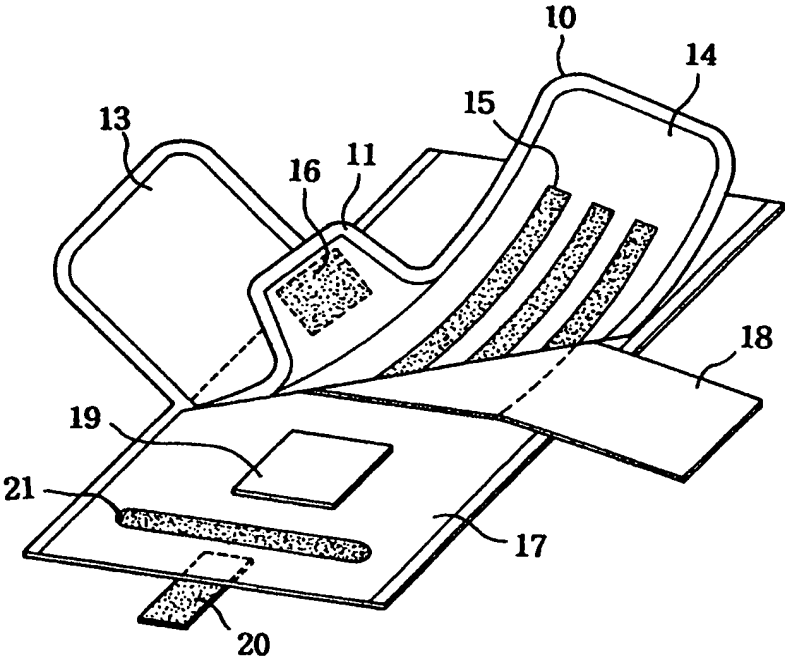


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(21) International Application Number: PCT/KR99/00259 (22) International Filing Date: 24 May 1999 (24.05.99) (30) Priority Data: 1998/18701 23 May 1998 (23.05.98) KR (71) Applicant (for all designated States except US): YUHAN-KIMBERLY LTD. [KR/KR]; 157-33, Sam-sung-dong, Kangnam-ku, Seoul 135-090 (KR). (72) Inventors; and (75) Inventors/Applicants (for US only): KIM, Doo-Hong [KR/KR]; LG Apartment, #1127-1393, Sanbon-dong, Kunpo-shi, Kyunggi-do 435-040 (KR). KIM, Hyung-Bum [KR/KR]; 278-4, Bisan-dong, Dongan-ku, Anyang-shi, Kyunggi 431-050 (KR). HWANG, Eo-Yeon [KR/KR]; 652-9, Naeson-dong, Uwang-shi, Kyunggi-do 437-080 (KR). KANG, Eun-Jung [KR/KR]; 441-85, Bon-dong, Dongjack-ku, Seoul 156-060 (KR). (74) Agent: LEE, Ku-yi, Dong; Seoul Building, 114-31, Uni-dong, Chongro-ku, Seoul 110-350 (KR).		(81) Designated States: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG). Published <i>With international search report.</i>
(54) Title: INDIVIDUALLY PACKAGED ABSORBENT ARTICLE AND A METHOD FOR MAKING THE SAME		
(57) Abstract <p>An individually packaged absorbent article and a method for making the same is disclosed. An individual package of absorbent article comprises an absorbent pad (10) having side tabs (11) and a wrapper (17) having a central release strip (18) which may be parallel or perpendicular to the longitudinal axis of the wrapper (17). On either side of the central release strip (18) are tab release members (19), the tab release members (19) and the central release strip (18) being permanently attached to the wrapper (17). The wrapper (17) and the absorbent pad (10) are folded as a unit about at least two lateral spaced-apart fold axes. The invention saves the user the steps of removing separate release strips and unfolding the side tabs.</p> 		

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INDIVIDUALLY PACKAGED ABSORBENT ARTICLE AND A METHOD FOR MAKING THE SAME

5

BACKGROUND OF THE INVENTION

1. Field of the Invention

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This invention generally relates to an individually packaged absorbent article such as a sanitary napkin. More specifically, this invention is directed to the package and the packaging method of an absorbent article which effectively protect the absorbent article prior to use and facilitate the removal of the absorbent article from
15 the package.

2. Description of the Prior Art

20

It is well known in the prior art that an absorbent article such as a sanitary napkin is individually packaged so that it is protected from soiling or contamination before use. Also, an individual packaged absorbent article allows the user to carry one or two absorbent articles in purse or pocket for later use without damage or soiling. U.S. Patent No. 4,556,146 to Swanson et al. discloses an individually
25 packaged disposable absorbent article. According to the Swanson Patent, a wrapper overlays one major surface of the article. The wrapper and the absorbent article are folded as a unit and the side edges of the wrapper are frangibly sealed to provide an individually packaged absorbent article.

30

Also, it is well known in the art that absorbent articles such as disposable sanitary napkins have side tabs or side wings. Side tabs are used to prevent the leakage of menstrual liquid from the side of the absorbent pad, and position the absorbent article against the wearer's underwear and maintain the absorbent article in a wearing position. For example, sanitary napkins having side tabs are disclosed
35 in U.S. Patent No. 4,285,343 to McNair and U.S. Patent No. 4,589,876 to Van Tilburg. European Patent No. 0 527 171 to Davis et al. and European Patent No. 0

637 234 to 3M Company disclose a sanitary napkin with side tabs folded over the topsheet, which is intended to protect the top sheet from damage or contamination before the tabs are unfolded for use. Furthermore, the European '171 and '234 patents teach that the side tabs are maintained in a folded position so that they face
5 the topsheet by means of a release strip attached to the adhesive patches on the back surface of the side tabs.

However, the European '171 and '234 patents do not teach or suggest a technology for individually packaging the sanitary napkins with side tabs. Moreover,
10 in order to install the sanitary napkins onto a wearer's underwear, the user has to remove the release strip from the side tabs or detach the side tabs from the release sheet which is attached to the side tabs. Therefore, a technology is needed for individually packaging an absorbent article having side tabs which effectively protects the packaged absorbent article from damage or contamination and facilitate the
15 removal of the absorbent article from the package for use.

SUMMARY OF THE INVENTION

20 Accordingly, it is an object of the present invention to provide a structure and a method for individually packaging an absorbent article with side tabs.

Another object of the present invention is to provide an individual package and packaging method of an absorbent article which promotes the protection and cleanness
25 of the absorbent article.

Another object of the present invention is to provide a package structure and method which insure that the absorbent article can be removed from the package in a ready-to-use state in which the tabs are unfolded and the release strip and/or sheet
30 are removed from the tabs.

A further object of the present invention is to provide a package structure which can reduce the amount of material required for wrapping the package.

35

BRIEF DESCRIPTION OF THE DRAWINGS

Fig. 1 is a plane view of an absorbent pad with side tabs.

5 Fig. 2 is a sectional view of the absorbent pad of Fig. 1 cut along line A-A' in Fig. 1.

Fig. 3 is a plane view of the inner surface of a wrapper with a central release strip and a pair of tab release members attached thereto.

10

Fig. 4 is a plane view of an absorbent pad attached to the inner surface of the wrapper

Fig. 5 is a plane view of an absorbent pad attached to the inner surface of the
15 wrapper folded about two spaced-apart lateral fold axes.

Fig. 6 is a perspective view of an individually packaged absorbent article with a tri-folded wrapper.

20 Fig. 7 is a perspective view showing how the absorbent pad is removed from the wrapper according to a first embodiment of the invention.

Fig. 8 is a plane view of an absorbent pad attached to the inner surface of the wrapper according to an alternative embodiment of the invention.

25

Fig. 9 is a perspective view of an absorbent pad showing how the absorbent pad is removed from the wrapper according to an alternative embodiment of the invention.

30 Fig. 10 is a plane view of an absorbent pad attached to the inner surface of the wrapper according to an alternative embodiment of the invention.

Fig. 11 is a perspective view of an absorbent pad showing how the absorbent pad is removed from the wrapper according to an alternative embodiment of the
35 invention.

DETAILED DESCRIPTION OF THE INVENTION

The invention provides an individually packaged absorbent article comprising
5 an absorbent pad having two longitudinal and two lateral margins, a liquid pervious
topsheet, a liquid impervious backsheet having adhesive elements formed thereon, an
absorbent core interposed between the topsheet and the backsheet, and two tabs each
extending outwardly from each longitudinal margin of said absorbent pad and having
adhesive elements on the surface coextensive of said backsheet, and a wrapper having
10 a central release strip which is attached to the wrapper so that the longitudinal axis
of the central release strip generally makes a right angle with respect to the
longitudinal axis of the wrapper and a pair of tab release members which are attached
to the wrapper on each side of the central release strip. In the packaged absorbent
article, the adhesive elements on the backsheet and the tabs are attached to the central
15 release strip and the tab release members, respectively, and the absorbent pad is
folded about at least two spaced-apart lateral fold axes, and the wrapper and the tabs
are folded as a unit about at least two spaced-apart lateral fold axes to enclose the
folded absorbent pad.

20 The invention also provides a method for individually packaging an absorbent
article comprising an absorbent pad having a liquid pervious topsheet, a liquid
impervious backsheet having adhesive elements formed thereon, an absorbent core
interposed between the topsheet and the backsheet, and two tabs each extending
outwardly from longitudinal margins of said absorbent pad and having adhesive
25 elements on the surface coextensive of said backsheet. The method comprises the
steps of providing a wrapper in a generally flat position, affixing a central release
strip to the wrapper so that its longitudinal axis generally makes a right angle with
respect to the longitudinal axis of said wrapper and affixing a pair of tab release
members to the wrapper on each side of the central release strip, releasably attaching
30 the adhesive element on the backsheet to the central release strip and releasably
attaching the adhesive elements on the tabs to the tab release members, folding the
absorbent pad about at least two space-apart lateral fold axes, and folding the wrapper
and the tabs as a unit about at least two spaced-apart lateral fold axes to enclose the
folded absorbent pad.

35

It should be understood that the present invention can be modified into various embodiments, which are explained below referring to the attached drawings.

Figs. 1 and 2 are plane and sectional views, respectively, of absorbent pad 10 with side tabs 11, respectively. The absorbent pad has two longitudinal and two lateral margins, a liquid pervious topsheet 13, a liquid impervious backsheet 14 having adhesive elements 15 formed thereon, an absorbent core 12 interposed between the topsheet 13 and the backsheet 14, and two tabs 11 each extending outwardly from each longitudinal margin of said absorbent pad 10 and having adhesive elements 16 on the surfaces coextensive of said backsheet 14. The side tabs 11 are either formed of the topsheet 13 and/or backsheet 14 extending beyond the longitudinal margins of the absorbent pad 10 or formed of separate members attached to the longitudinal margins of the absorbent pad. The side tabs 11 are used to prevent leakage of the menstrual liquid from the sides of the absorbent pad and to secure the absorbent article onto wearer's underwear and maintain the absorbent pad in the wearing position.

Adhesive elements 15 are formed on the backsheet 14 of the absorbent pad 10. The adhesive elements 15 may be a pressure sensitive adhesive which is formed by conventional technology such as printing, coating or the like. Although, the adhesive elements 15 on the backsheet are preferably formed in the shape of strips, it can have any shape suitable for maintaining the position of the absorbent pad 10. The adhesive elements 15 on the backsheet 14 are attached to the underwear at the crotch portion when the absorbent pad 10 is installed in the wearer's underwear. An adhesive element 16 is also formed on the surface of each side tab 11 which is coextensive of the backsheet 14 of the absorbent pad 10. The adhesive elements 16 on the side tabs 11 may be formed of the same material that is used for the adhesive elements 15 on the backsheet 14. The adhesive elements 16 on the side tabs 11 are attached to the outer surface of the wearer's underwear at the crotch portion when the absorbent pad is worn. The adhesive elements 16 of the tabs 11 may have rectangular shape, but they may be formed in any suitable pattern.

Fig. 3 illustrates a wrapper 17 which is used to individually package the absorbent pad in Figs. 1 and 2. The wrapper 17 is made of any appropriate material such as paper, plastic or the like. On the inner surface of the wrapper, a central

release strip 18 is permanently affixed so that the longitudinal axes of the release strip 18 and the wrapper 17 cross each other generally at a right angle. The release strip 18 extends beyond the longitudinal edges of the wrapper and is permanently affixed to the inner surface of the wrapper at least at the center portion thereof. On each side
5 of the central release strip 18, a pair of release members 19 are permanently attached to the inner surface of the wrapper. The release members 19 are located at the positions where the adhesive elements 16 of the side tabs 11 are positioned when the adhesive elements 15 on the backsheet 14 is attached to the central release strip 18. The central release strip 18 and the tab release members 19 are permanently attached
10 to the wrapper 17 by conventional technical means such as heat bonding, gluing or the like. At one end of the wrapper, an adhesive member 20 is provided. The adhesive member 20 is used to maintain the package of the absorbent article and is also used to unfold the package by pulling out the adhesive member 20 from the wrapper. Preferably, a lateral adhesive strip 21 can be further provided on the inner
15 surface at the one end of the wrapper in order to improve the sealing property of the package.

According to the invention depicted in Fig. 4, the adhesive elements 15 on the backsheet 14 are releasably attached to the central release strip 18 such that the
20 longitudinal axis of the absorbent pad 10 generally make a right angle to the longitudinal axis of the wrapper 17. The adhesive elements 16 on the tabs 11 are also releasably attached to the tab release members 19. The central release strip 18 and the tab release members 19 are made of any material suitable for releasably attaching the adhesive elements such as silicone-coated paper or the like. The central release
25 strip 18 and the tab release members 19 protect the surface of the adhesive elements on the backsheet 14 and tabs 11 while the absorbent pad 10 is packaged in the wrapper 17. They also allow the user to detach the absorbent pad from the wrapper after the wrapper is unfolded for use.

30 Figs. 5 and 6 show how the absorbent pad is individually packaged according to the present invention. After attaching the absorbent pad 10 onto the wrapper 17 as explained with reference to Fig. 4, the absorbent pad is folded about two spaced-apart lateral fold lines B-B', C-C' as depicted in Fig. 4. Preferably, the distance between the lateral fold lines B-B', C-C' is greater than the longitudinal width of the
35 side tabs and smaller than the lateral width of the wrapper 17. When the absorbent

pad 10 is tri-folded about two spaced-apart fold lines, the end portions of the absorbent pad are placed on the topsheet 13 and the end portions may or may not overlap each other depending on the distance between the lateral fold lines. After the absorbent pad is tri-folded about two lateral fold lines B-B', C-C', the wrapper 17 and tabs 11 are folded as a unit about two spaced-apart lateral fold lines D-D', E-E' as depicted in Fig. 5. Preferably, the lateral fold lines D-D', E-E' are made to align with the longitudinal margins of the tri-folded absorbent pad. When the wrapper is folded about two lateral fold lines D-D', E-E', the side tabs 11 attached to the release members 19 on the wrapper 17 are also folded about the lateral fold lines D-D', E-E'. When the wrapper is tri-folded about the lateral fold lines, the side tabs 11 are placed in a facing relationship with respect to the backsheet 14 of the folded absorbent pad 10.

After the wrapper 17 is tri-folded, an adhesive member 20 provided at one end of the wrapper is releasably attached to the outer surface of the wrapper to maintain the wrapper in a closed position as depicted in Fig. 6. A landing zone (not shown) may be provided at the location on the outer surface of the wrapper 17 where the adhesive member 20 is attached. As explained above, a lateral adhesive strip 21 provided at one end of the wrapper 17 can be releasably attached to the outer surface of the wrapper in order to provide a more reliable package of the absorbent article. The side margins 22 of the folded wrapper are frangibly sealed by means of conventional technology such as heat bonding, gluing, ultrasonic bonding or the like. Thus, an individually packaged absorbent article illustrated in Fig. 6 is provided.

Fig. 7 illustrates how the absorbent pad 10 is removed from the package for use. In order to open the package for use, the user may unfold the wrapper by pulling the adhesive tap 20 from the outer surface of the wrapper 17. After unfolding the wrapper 17, the user may hold one end of the wrapper with one hand and hold one end of a side tab 11 which is in turn releasably attached to a tab release member 19. When the side tab 11 is pulled out from the wrapper 7, the adhesive elements 16 on the side tab is detached from the tab release member 19 and then the adhesive elements 15 on the backsheet 14 of the absorbent pad is also detached from the central release strip 18 to which it is releasably attached. Finally, the other side tab is detached from a tab release member 19 on the other side of the wrapper. Meanwhile, the central release strip 18 and a pair of tab release members 19 detached

from the adhesive elements 15 on the backsheet 14 and the adhesive elements 16 on the tabs 11 remain attached to the wrapper 17 since they are permanently attached to the wrapper. As such, the absorbent pad can be easily removed from the wrapper in a ready-to-use state. The same result can be obtained when the user holds one end
5 of the absorbent pad and pulls the pad out from the central release strip 18 to which the backsheet of the absorbent pad is releasably attached.

Prior art absorbent articles use separate release strips and/or sheets to maintain the side tabs in a topsheet facing relationship. In order to secure the absorbent article
10 onto underwear, the user was required to expend an extra step to remove the release strips and/or sheets and unfold the side tabs. According to the present invention, however, the user can remove the absorbent pad from the wrapper in a ready-to-use state without doing this extra step. Further, since the release strip and members are permanently affixed to the wrapper, the user does not have to bother to dispose the
15 detached release strip and members. Also, in a conventional package of an absorbent pad, the wrapper had to have an area substantially larger than the total area of the unfolded absorbent pad. In the invention, a smaller wrapper can be used because the wrapper is contemplated to wrap around the tri-folded absorbent pad. Accordingly, the present invention has the added economic and environmental advantages of
20 reducing the amount of material required for the wrapper structure.

Figs. 8 and 9 illustrate an alternative embodiment of the invention where an absorbent pad 10, the same as the absorbent pad depicted in Fig. 1, is attached to a wrapper 17 having a central release strip 18. The central release strip 18 is
25 permanently affixed to the inner surface of a wrapper 17 so that the longitudinal axis of the central release strip 18 is parallel with the longitudinal axis of the wrapper 17. The adhesive elements 15 on the backsheet 14 of the absorbent pad is releasably attached to the central release strip 18 so that the longitudinal axis of the absorbent pad is generally parallel with the longitudinal axes of the wrapper 17 and the central
30 release strip 18. Then, the side tabs 11 are folded over the topsheet 13 and a release member 19' is attached to the adhesive element 16 of each side tab to protect the surface of the adhesive element 16. One end of each tab release member 19' extends beyond the side edge of the absorbent pad and is permanently affixed to the inner surface of the wrapper 17 at the location adjoining the fold line of each side tabs 11.
35

The wrapper 17 and the absorbent pad 10 are folded as a unit about two spaced-apart laterally oriented fold lines F-F', G-G' and the adhesive member 20 on one end of the wrapper 17 is affixed to the outer surface of the wrapper to complete an individual package of the absorbent article. As explained with respect to the
5 former embodiment, a landing zone may be provided at the region of the outer surface of the wrapper 17 where the adhesive member 20 is attached. Preferably, a lateral adhesive strip 21 can be provided at one end of the wrapper to improve the security of the package.

10 Fig. 9 illustrates how the absorbent pad of Fig. 8 is removed from the wrapper for use. First, the wrapper 17 is unfolded by detaching the adhesive member 20 and the lateral adhesive strip 21 from the outer surface of the wrapper or preferably from the landing zone provided thereon. After the wrapper is unfolded, the absorbent pad 10 is separated from the wrapper 17 by pulling out one end of the
15 absorbent pad with one hand, and the other hand holding the wrapper at the same end. By doing so, the adhesive elements 15 on the backsheet and the adhesive elements 16 on the side tabs 11 are detached from the central release strip 18 and the tab release members 19', respectively.

20 Figs. 10 and 11 illustrate a further alternative embodiment from the embodiment illustrated in Figs. 8 and 9. Referring to Fig. 10, an absorbent pad 10 is placed on a wrapper 17 in a similar manner as depicted in Fig. 8 except that each of the tab release members 19', which are releasably attached to the adhesive elements 16 of the side tabs 11, laterally extend around the side margin of the
25 absorbent pad 10. The end of the tab release member 19', which extends around a side margin of the absorbent pad, is permanently affixed to the wrapper 17 or the central release strip 18 which is in turn permanently affixed to the wrapper. The absorbent pad 10 in Fig. 10 is packaged as explained with respect to Figs. 8 and 9. As illustrated in Fig. 11, the individually packaged absorbent article can be unfolded
30 and removed from the wrapper in the same manner as illustrated in Fig. 9.

The individual package of an absorbent pad and the method for packaging the same explained referring to Figs. 8 to 11 effectively protect the topsheet of the absorbent pad and the adhesive elements of the side tabs and the backsheet until the
35 package is unfold and the absorbent pad is removed from the wrapper. According

to the present invention, the absorbent pad can be easily removed from the wrapper in a ready-to-use state saving the user the step of removing the release strip/members and unfolding the side tabs or the like. In addition, the present invention facilitates the disposal of the removed wrapper and release strip/members, since they remained
5 as a unitary assembly after the absorbent pad is removed for use.

While particular embodiments of the present invention have been illustrated and described, it would be obvious to those skilled in the art that various other changes and modifications can be made without departing from the spirit and scope
10 of the invention.

What is claimed is:

5 1. An individually packaged absorbent article comprising:

an absorbent pad having two longitudinal and two lateral margins, said absorbent pad comprising,

10 a liquid pervious topsheet,
a liquid impervious backsheet having adhesive elements formed thereon,
an absorbent core interposed between said topsheet and said backsheet,
two tabs each extending outwardly from each longitudinal margin of
15 said absorbent pad and having adhesive elements on the surface coextensive of said backsheet; and

a wrapper having a central release strip which is attached to said wrapper such that the longitudinal axis of said central release strip generally makes a right angle
20 with respect to the longitudinal axis of said wrapper and a pair of tab release members which are attached to said wrapper on each side of said central release strip,

wherein, said adhesive elements on said backsheet and said tabs are releasably attached to said central release strip and said tab release members, respectively, and
25 said absorbent pad is folded about at least two spaced-apart lateral fold axes, and said wrapper and said tabs are folded as a unit about at least two spaced-apart lateral fold axes to enclose said folded absorbent pad.

2. The individually packaged absorbent article of claim 1 wherein said central
30 release strip and said tab release members are permanently affixed to said wrapper.

3. The individually packaged absorbent article of claim 1 wherein said wrapper has an adhesive member at one end.

35 4. The individually packaged absorbent article of claim 2 wherein said wrapper

further has a lateral adhesive strip at one end.

5. The individually packaged absorbent article of claim 1 wherein the longitudinal side margins of said wrapper are frangibly sealed.

5

6. The individually packaged absorbent article of claim 1 wherein the fold axes of said wrapper are aligned with the longitudinal margins of said absorbent pad.

7. A method for individually packaging an absorbent pad having two longitudinal and two lateral margins, a liquid pervious topsheet, a liquid impervious backsheet having adhesive elements formed thereon, an absorbent core interposed between said topsheet and said backsheet, and two tabs each extending outwardly from longitudinal margins of said absorbent pad and having adhesive elements on the surface coextensive of said backsheet, said method comprising the steps of:

15

providing a wrapper in a generally flat position,

affixing a central release strip to said wrapper such that its longitudinal axis generally makes a right angle with respect to the longitudinal axis of said wrapper and affixing a pair of tab release members to said wrapper on each side of said central release strip,

20

releasably attaching said adhesive elements on said backsheet to said central release strip and releasably attaching said adhesive elements on said tabs to said tab release members,

25

folding said absorbent pad about at least two space-apart lateral fold axes, and

30 folding said wrapper and said tabs as a unit about at least two spaced-apart lateral fold axes to enclose said folded absorbent pad.

8. The method according to claim 7 characterized in that said central release strip and said pair of release members are permanently affixed to said wrapper.

35

9. The method according to claim 7 further comprising a step of frangibly sealing said longitudinal margins of said folded wrapper.
10. An individually packaged absorbent article comprising:
- 5 an absorbent pad having two longitudinal and two lateral margins, said absorbent pad comprising,
- 10 a liquid pervious topsheet,
a liquid impervious backsheet having adhesive elements formed thereon,
an absorbent core interposed between said topsheet and said backsheet, two tabs each extending outwardly from each longitudinal margin of said absorbent pad and having adhesive elements on the surface
15 coextensive of said backsheet; and
- a wrapper having a central release strip which is attached to said wrapper such that the longitudinal axis of said central release strip is generally parallel with said longitudinal axis of said wrapper and a pair of tab release members which are
20 attached to said wrapper on each side of said central release strip,
- wherein, said adhesive elements on said backsheet are releasably attached to said central release strip, and said tabs are folded over the topsheet, and each of said tab release members is attached to said adhesive element of said tab at one end and
25 attached to said wrapper at the other end, and said wrapper and said absorbent pad are folded as a unit about at least two lateral spaced-apart fold axes.
11. The individually packaged absorbent article of claim 10 wherein said central release strip and said tab release members are permanently affixed to said wrapper.
- 30 12. The individually packaged absorbent article of claim 10 wherein said wrapper has an adhesive member and a lateral adhesive strip at one end.
13. The individually packaged absorbent article of claim 10 wherein the
35 longitudinal side margins of said wrapper are frangibly sealed.

14. The individually packaged absorbent article of claim 10 wherein the end of said tab release member being attached to said wrapper laterally extends around a side margin of said absorbent pad.

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Fig. 1

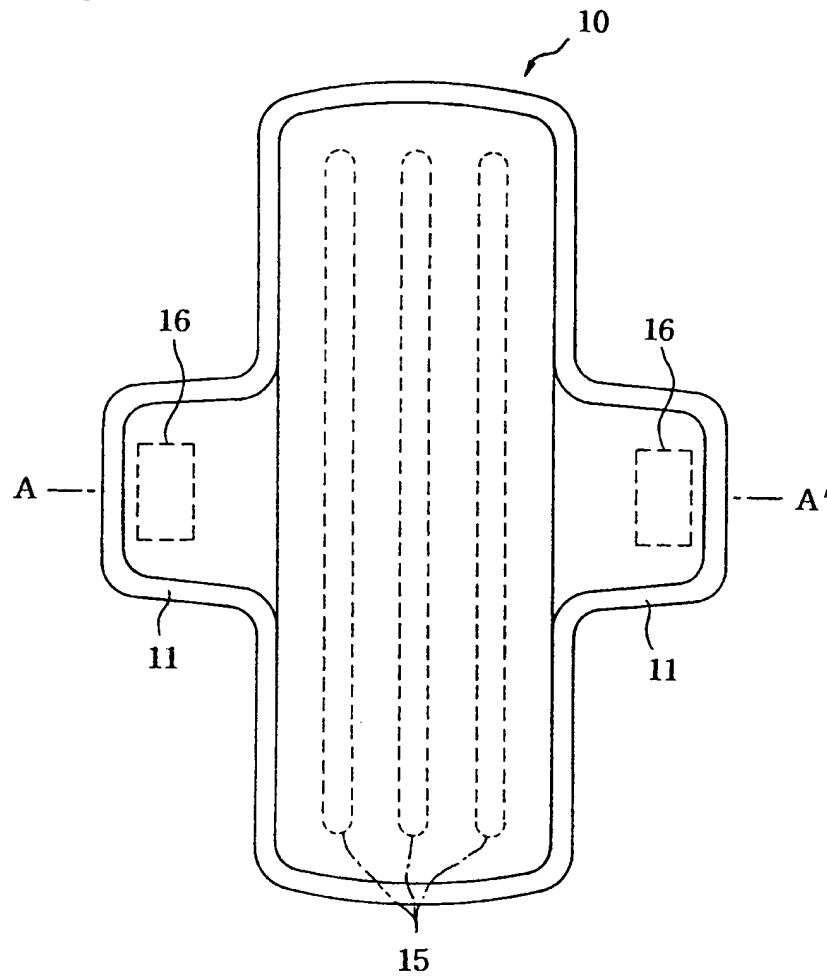
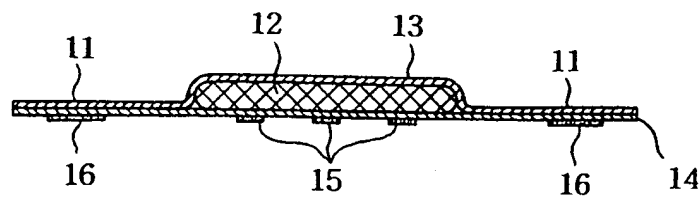


Fig. 2



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Fig. 3

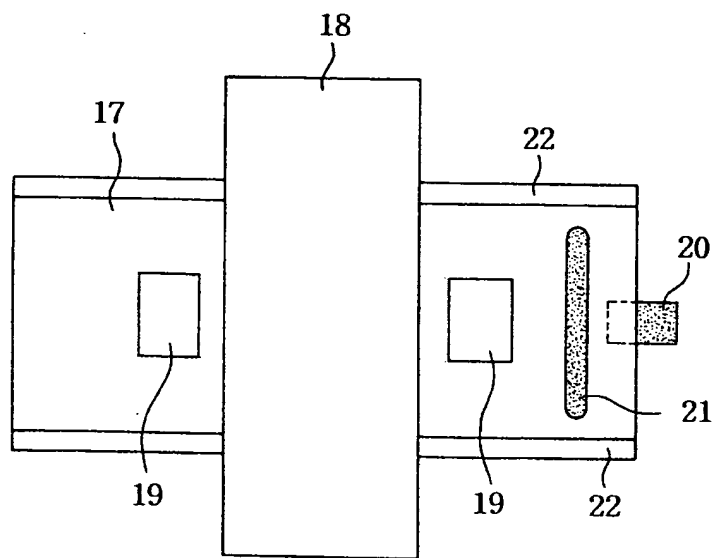
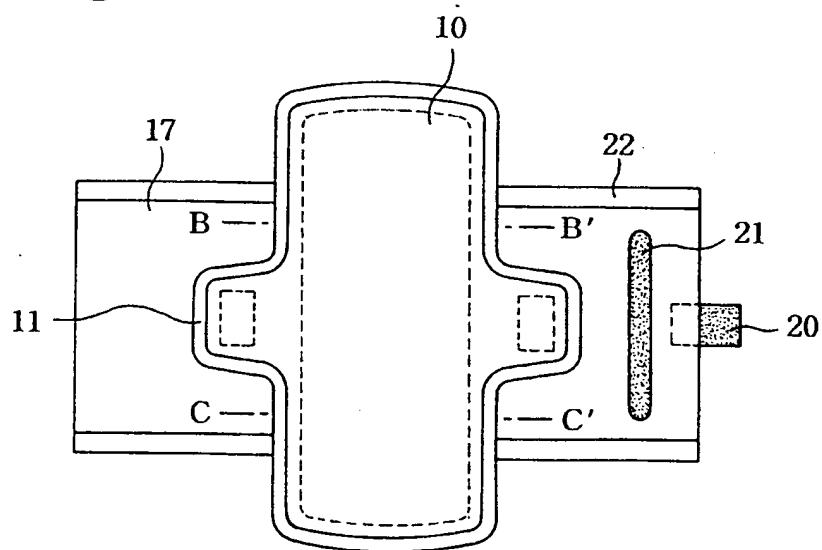


Fig. 4



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Fig. 5

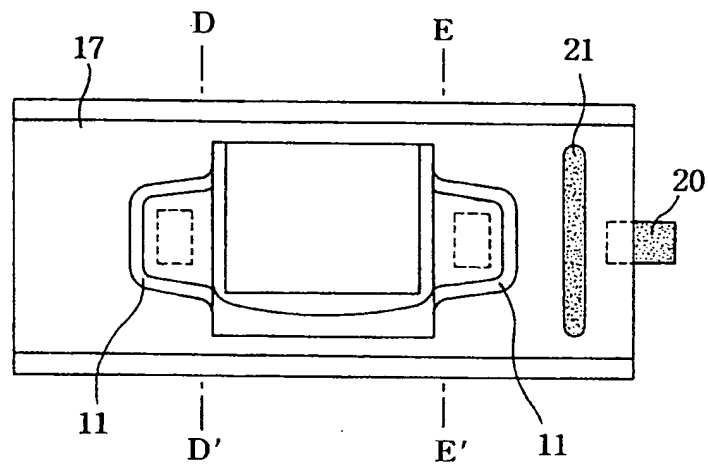
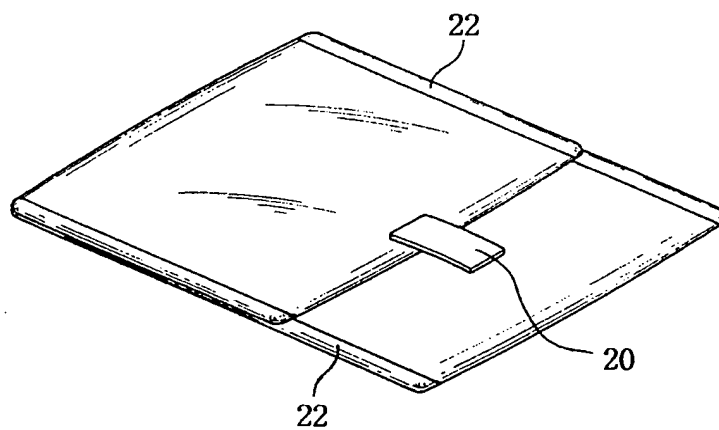
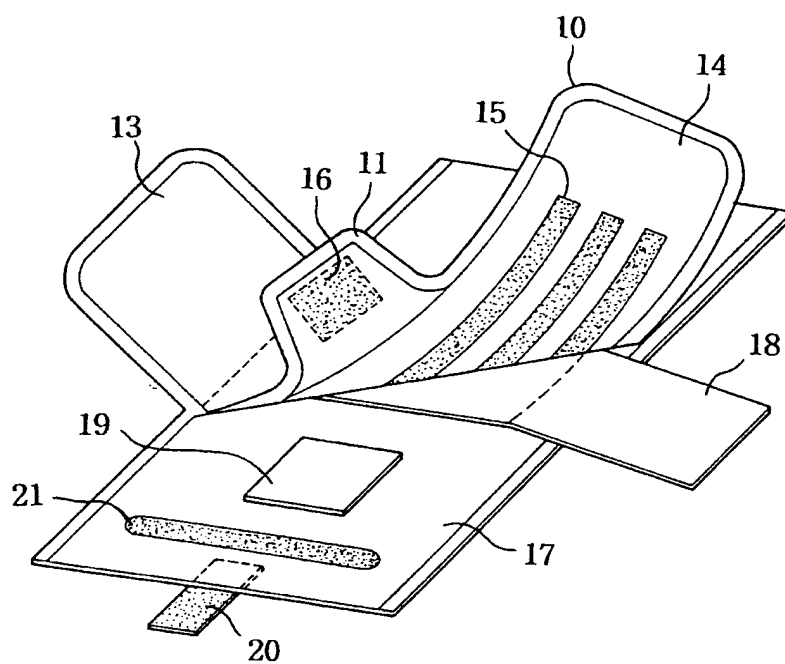


Fig. 6



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Fig. 7



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Fig. 8

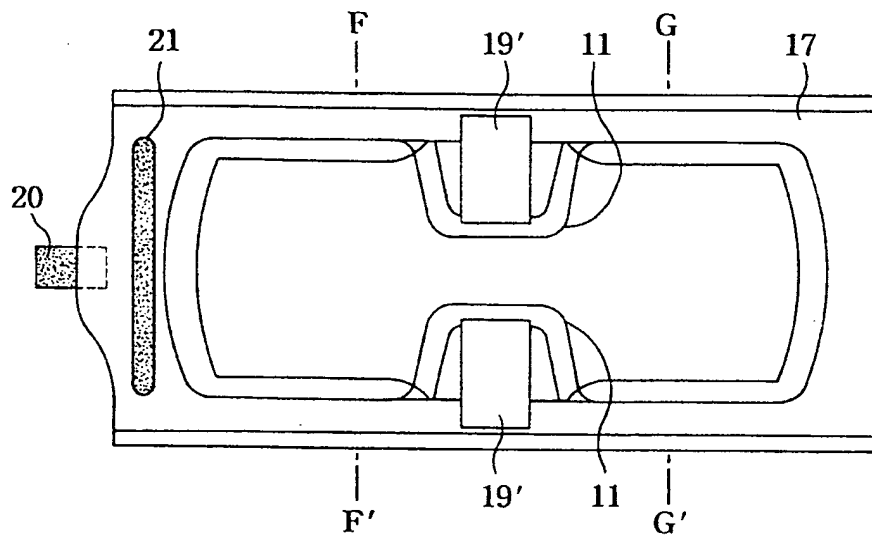
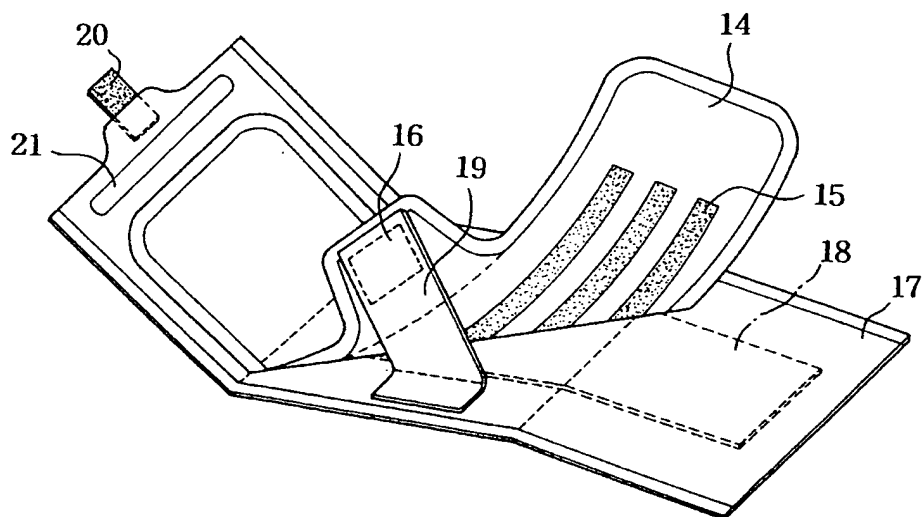


Fig. 9



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Fig. 10

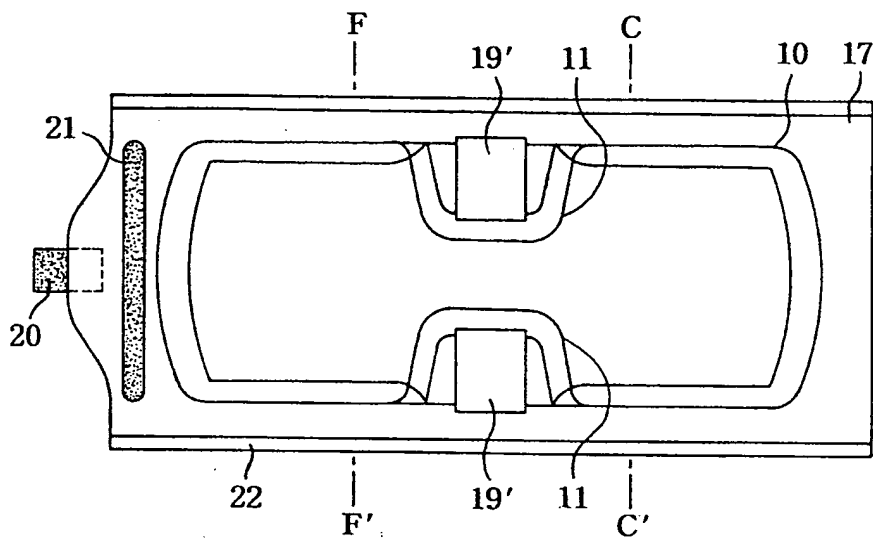
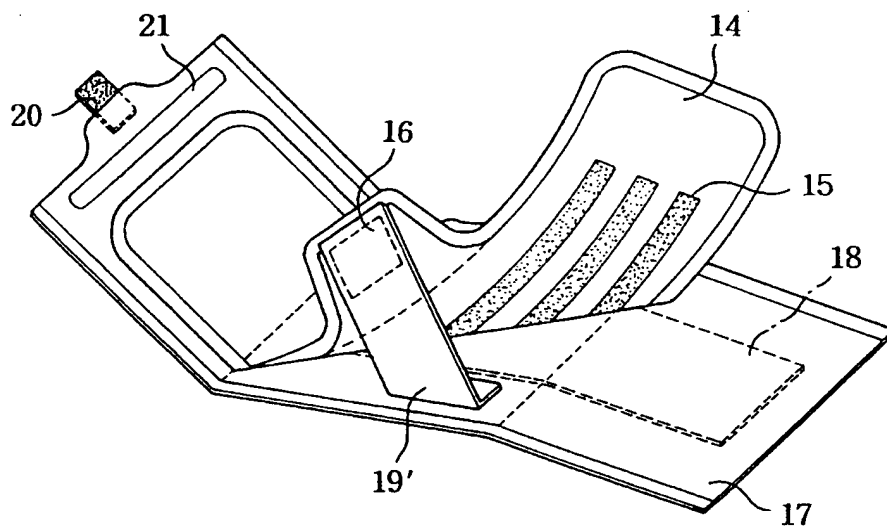


Fig. 11



INTERNATIONAL SEARCH REPORT

International application No.
PCT/KR 99/00259

A. CLASSIFICATION OF SUBJECT MATTER																						
Int Cl ⁶ : A61F 13/15																						
According to International Patent Classification (IPC) or to both national classification and IPC																						
B. FIELDS SEARCHED																						
Minimum documentation searched (classification system followed by classification symbols) A61F 13/-																						
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched																						
Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) DERWENT JAPIO																						
C. DOCUMENTS CONSIDERED TO BE RELEVANT																						
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.																				
X	SE 504514 C (MÖLNLYCKE AB) 24 February 1997 Figures 1 to 3	1-14																				
X	Patent Abstracts of Japan, JP, 9-220255 A (SHISEIDO CO LTD) 26 August 1997 abstract	1-9																				
X	Patent Abstracts of Japan, JP 9-266928 A (SHISEIDO CO LTD) 14 October 1997 abstract	10-14																				
<input checked="" type="checkbox"/> Further documents are listed in the continuation of Box C <input checked="" type="checkbox"/> See patent family annex																						
<p>* Special categories of cited documents:</p> <table border="0"> <tr> <td>"A"</td> <td>document defining the general state of the art which is not considered to be of particular relevance</td> <td>"I"</td> <td>later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention</td> </tr> <tr> <td>"E"</td> <td>earlier application or patent but published on or after the international filing date</td> <td>"X"</td> <td>document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone</td> </tr> <tr> <td>"L"</td> <td>document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)</td> <td>"Y"</td> <td>document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art</td> </tr> <tr> <td>"O"</td> <td>document referring to an oral disclosure, use, exhibition or other means</td> <td>"&"</td> <td>document member of the same patent family</td> </tr> <tr> <td>"P"</td> <td>document published prior to the international filing date but later than the priority date claimed</td> <td></td> <td></td> </tr> </table>			"A"	document defining the general state of the art which is not considered to be of particular relevance	"I"	later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention	"E"	earlier application or patent but published on or after the international filing date	"X"	document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone	"L"	document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"Y"	document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art	"O"	document referring to an oral disclosure, use, exhibition or other means	"&"	document member of the same patent family	"P"	document published prior to the international filing date but later than the priority date claimed		
"A"	document defining the general state of the art which is not considered to be of particular relevance	"I"	later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention																			
"E"	earlier application or patent but published on or after the international filing date	"X"	document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone																			
"L"	document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"Y"	document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art																			
"O"	document referring to an oral disclosure, use, exhibition or other means	"&"	document member of the same patent family																			
"P"	document published prior to the international filing date but later than the priority date claimed																					
Date of the actual completion of the international search 18 August 1999		Date of mailing of the international search report 23 AUG 1999																				
Name and mailing address of the ISA/AU AUSTRALIAN PATENT OFFICE PO BOX 200 WODEN ACT 2606 AUSTRALIA Facsimile No.: (02) 6285 3929		Authorized officer <i>D. Melhuish</i> DAVID MELHUIH Telephone No.: (02) 6283 2426																				

INTERNATIONAL SEARCH REPORT

International application No.

PCT/KR 99/00259

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	EP 749742 A (JOHNSON & JOHNSON INC.) 27 December 1996 Figure 1	
P,A	Patent Abstracts of Japan. JP 10-338267 A (SEKISUI CHEM CO LTD) 22 December 1998 abstract	

INTERNATIONAL SEARCH REPORT
Information on patent family members

International application No.
PCT/KR 99/00259

This Annex lists the known "A" publication level patent family members relating to the patent documents cited in the above-mentioned international search report. The Australian Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

Patent Document Cited in Search Report		Patent Family Member				
SE 504514						
JP 9-220255						
JP 9-266928						
EP 749742	AU 54510/96	BR 9602793	CN 1139545	HU 9601464	JP 9000567	
	NZ 286576	PL 314713	US 5868727			
JP 10-338267						
END OF ANNEX						